



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,764	07/07/2003	Oyvind Stromme	10022/578	8000
28164 7590 10/02/2008 ACCENTURE CHICAGO 28164 BRINKS HOFER GILSON & LIONE P O BOX 10395 CHICAGO, IL 60610				
EXAMINER				
TRAN, CON P				
ART UNIT		PAPER NUMBER		
2615				
MAIL DATE		DELIVERY MODE		
10/02/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/614,764

Applicant(s)

STROMME, OYVIND

Examiner

CON P. TRAN

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/5/08; Pre-Appeal Conf. Dec. on 7/24/08.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-20 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SI/08)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

1 In view of the Request for Pre-Appeal Brief Review filed on 07/24/2008, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-2, 5-6, 9-13, and 16-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over M. Fukumoto et al., FINGER-POINTER": POINTING INTERFACE BY IMAGE PROCESSING", Computers and Graphics, Pergamon Press LTD. Oxford, GB, vol. 18, no. 5, 9/1/1994, pp. 633-642, cited by Applicant, (hereinafter, "Fukumoto") in view of Cohen-Solal et al. U.S. Patent 7,028,269 (hereinafter, "Cohen-Solal"), and further in view of Surucu et al. U.S. Patent 7,028,269 (hereinafter, "Surucu").

Regarding **claim 1**, Fukumoto teaches sound control installation for at least one electrical unit comprising:

at least two cameras (wall camera, ceiling camera, see Figs. 1, 2) to take pictures of a determined area (living room, col. 634, left column) in a space containing the electrical units (control VCR, page 639, right column);

a microphone positioned in area to sense the sounds in said space (page 637, right column); a

control screen (Fig. 6, 7) displaying an image of the space and the electrical units (VCR, Fig. 15);

a control device (VPO Virtual Projection Origin, Figs. 6, 7, 8) for positioning on the control screen a cursor (target, Fig. 7) in accordance with movements of a hand of a user detected by said cameras (wall camera, ceiling camera, see Figs. 1, 2), and for controlling a determined electrical unit (control VCR, page 639, right column) when:

the cursor (target, Fig. 7) is on the image of said determined electrical unit (control VCR, page 639, right column),

a sound is produced (integration of voice, page 637, right column)'

a system associated with the microphone (page 637, right column).

Fukumoto discloses the microphone for voice command. Fukumoto does not explicitly disclose using at least two microphones positioned at different locations and a system associated with the microphones to locate the origin of the sound source.

Cohen-Solal discloses a video camera targeting systems that locate and acquire targets (col. 2, lines 37-42) in which sound source transducer (49, Fig. 1B) which could be an array of microphones to pinpoint the source of sounds, applies a signal to a sound source processor 16 which applies a position vector (102, Fig. 1B) to control processor (10, Fig. 1B). If the target emits a sound, this information can be used to locate the target based on the source vector (102, Fig. 1B; col. 8, lines 6-12);

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the video camera targeting systems taught by Cohen-Solal with the sound control installation of Fukumoto such that using at least two microphones positioned at different locations and a system associated with the microphones to locate the position of the sound source as claimed in order to greatly reduce the need for a training, as suggested by Cohen-Solal in column 3, lines 9-10.

However, Fukumoto in view of Cohen-Solal does not explicitly disclose to check that the origin of the sound is close to the position of the hand.

Surucu discloses combining stimuli detected in two or more sensory domains in order to improve performance and reliability in classifying and interpreting user gestures [0028] in which a television viewer may snap his fingers to alert that a remote-control command is ensuing, and then sign with his fingers in the air the number of the desired channel, thereby commanding the television set to switch channels. A popup menu system or other virtual control may be activated only upon the concurrent visual and auditory detection of a gesture that generates a sound, thereby decreasing the likelihood that the virtual controller is activated inadvertently [0034].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the combining stimuli from two or more sensory domains taught by Surucu with the sound control installation of Fukumoto in view of Cohen-Solal to obtain checking that the origin of the sound is close to the position of the hand as claimed for purpose decreasing the likelihood that the virtual controller is activated inadvertently as suggested by Surucu in paragraph [0034].

Regarding **claim 2**, Fukumoto in view Cohen-Solal teaches the installation of claim 1, in which said at least one electrical unit communicates with the control device through a wired link (i.e. Ethernet; see Fig. 2).

Regarding **claim 5**, Fukumoto in view Cohen-Solal teaches the installation of claim 1, in which the electrical units are identified on said control screen by a pictogram located in a picture representing said space (target, cursor, see Fukumoto Fig. 7).

Regarding **claim 6**, Fukumoto in view Cohen-Solal teaches the installation of claim 1, in which several cursors (target, cursor, see Fukumoto, Figs. 7, 10) are displayed on said control screen(screen, Fukumoto, Fig. 7), each cursor following the displacements of a hand in the surveyed area of the cameras (wall camera, ceiling camera, see Fukumoto, Figs. 1, 2, 3-5; pages 635-636)

Regarding **claim 8**, Fukumoto in view Cohen-Solal teaches the installation of claim 1. Cohen-Solal, as modified, further teaches in which the electrical units are turned on further to the detection of a sound in said space (sound source transducer, 49, Fig. 1B, col. 8, lines 6-12; a sound source location sensor 16 for locating objects emitting sounds, col. 8, lines 37-41).

Regarding **claim 9**, Fukumoto in view Cohen-Solal teaches the installation of claim 8. Fukumoto in view Cohen-Solal further teaches, in which the hand controlling the cursor (target, cursor, see Fukumoto, Figs. 7, 10) on the control screen (screen, Fukumoto, Fig. 7) is chosen by matching the detected origin of the activation sound and the location of the hand detected by the cameras (see Cohen-Solal, Fig. 4, col. 9, lines 38-46).

Regarding **claim 10**, Fukumoto in view Cohen-Solal teaches the installation of claim 1, when the cursor (target, cursor, see Fukumoto, Fig. 7) comes on the pictogram

Art Unit: 2615

of an electrical unit on the control screen (screen, see Fukumoto, Fig. 7), the corresponding pictogram is lighted (see Cohen-Solal, col. 5, lines 7-12).

Regarding **claim 11**, Fukumoto in view Cohen-Solal teaches the installation of claim 1, when the cursor (target, cursor, see Fukumoto, Fig. 7) comes on the pictogram of the electrical units on the control screen (screen, see Fukumoto, Fig. 7), the corresponding electrical unit is identified by a sound message (beep sound, see Cohen-Solal, col. 5, lines 7-12).

Regarding **claim 12**, Fukumoto teaches sound control installation for controlling an electrical unit comprising:

- a camera (wall camera, ceiling camera, see Figs. 1, 2) to take pictures of a determined area (living room, col. 634, left column) in a space containing the electrical units (control VCR, page 639, right column);

- a microphone positioned in area to sense the sounds in said space (page 637, right column); a

- a control device (VPO Virtual Projection Origin, Figs. 6, 7, 8) for controlling the electrical unit (control VCR, page 639, right column) in accordance with movements of a hand of a user detected by said camera (wall camera, ceiling camera, see Figs. 1, 2) when:

 - a sound is produced (integration of voice, page 637, right column)'

 - a system associated with the microphone (page 637, right column).

Fukumoto discloses the microphone for voice command. Fukumoto does not explicitly disclose using a system associated with the microphone checks that the origin of the sound is close to the position of the hand.

Cohen-Solal discloses a video camera targeting systems that locate and acquire targets (col. 2, lines 37-42) in which sound source transducer (49, Fig. 1B) which could be an array of microphones to pinpoint the source of sounds, applies a signal to a sound source processor 16 which applies a position vector (102, Fig. 1B) to control processor (10, Fig. 1B). If the target emits a sound, this information can be used to locate the target based on the source vector (102, Fig. 1B; col. 8, lines 6-12).

Cohen-Solal further teaches the system captures and processes the voice and gesture inputs and re-positions a PTZ video camera to focus on the object that best matches both the characteristics and the gesture. Thus, the PTZ camera is aimed based upon the inputs the system receives and the system's ability to locate the target by its sensors (col. 2, lines 46-57).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the video camera targeting systems taught by Cohen-Solal with the sound control installation of Fukumoto such that using a system associated with the microphone as claimed in order to greatly reduce the need for a training, as suggested by Cohen-Solal in column 3, lines 9-10.

However, Fukumoto in view of Cohen-Solal does not explicitly disclose to check that the origin of the sound is close to the position of the hand.

Surucu discloses combining stimuli detected in two or more sensory domains in order to improve performance and reliability in classifying and interpreting user gestures [0028] in which a television viewer may snap his fingers to alert that a remote-control command is ensuing, and then sign with his fingers in the air the number of the desired channel, thereby commanding the television set to switch channels. A popup menu system or other virtual control may be activated only upon the concurrent visual and auditory detection of a gesture that generates a sound, thereby decreasing the likelihood that the virtual controller is activated inadvertently [0034].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the combining stimuli from two or more sensory domains taught by Surucu with the sound control installation of Fukumoto in view of Cohen-Solal to obtain checking that the origin of the sound is close to the position of the hand as claimed for purpose decreasing the likelihood that the virtual controller is activated inadvertently as suggested by Surucu in paragraph [0034].

Regarding **claim 13**, this claim has similar limitations as Claim 2. Therefore it is interpreted and rejected for the reasons set forth in the rejection of Claim 2.

Regarding **claim 16**, this claim has similar limitations as Claim 5. Therefore it is interpreted and rejected for the reasons set forth in the rejection of Claim 5.

Regarding **claim 17**, this claim has similar limitations as Claim 6. Therefore it is interpreted and rejected for the reasons set forth in the rejection of Claim 6.

Regarding **claim 18**, this claim has similar limitations as Claim 8. Therefore it is interpreted and rejected for the reasons set forth in the rejection of Claim 8.

Regarding **claim 19**, this claim has similar limitations as Claim 9. Therefore it is interpreted and rejected for the reasons set forth in the rejection of Claim 9.

Regarding **claim 20**, this claim has similar limitations as Claim 10. Therefore it is interpreted and rejected for the reasons set forth in the rejection of Claim 10.

4. **Claims 3-4, and 14-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over M. Fukumoto et al., FINGER-POINTER": POINTING INTERFACE BY IMAGE PROCESSING", Computers and Graphics, Pergamon Press LTD. Oxford, GB, vol. 18, no. 5, 9/1/1994, pp. 633-642, cited by Applicant, (hereinafter, "Fukumoto") in view of Cohen-Solal et al. U.S. Patent 7,028,269 (hereinafter, "Cohen-Solal"), in view of Surucu et al. U.S. Patent 7,028,269 (hereinafter, "Surucu"), and further in view of Lyman U.S. Patent 4,303,836.

Regarding **claim 3**, Fukumoto in view Cohen-Solal in view of Surucu teaches the installation of claim 1. However, Fukumoto in view Cohen-Solal in view of Surucu

does not explicitly disclose in which said at least one electrical unit communicates with the control device through wireless link.

Lyman teaches a silencer manually-operable from a remote post and adapted to suppress the audio output of a phonograph radio or television set during commercial breaks or other intervals, which silencer requires no wiring changes in the set to install (col. 1, lines 48-53), in which using a wireless link to transmit an ultra-high frequency radio signal (col. 5, lines 1-9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the wireless link taught by Lyman with the sound control installation of Fukumoto in view of Cohen-Solal in view of Surucu in which said at least one electrical unit communicates with the control device through wireless link as claimed in order to operates efficiency and reliably, and may be mass-produced at low cost, as suggested by Lyman in column 2, lines 65-67.

Regarding **claim 4**, Lyman, as modified, teaches in which the wireless link use radiofrequency transceiver (receiver, col. 4, lines 16-19; transmitter, col. 5, lines 1-9).

Regarding **claim 14**, this claim has similar limitations as Claim 3. Therefore it is interpreted and rejected under Fukumoto in view Cohen-Solal and further in view of Lyman for the reasons set forth in the rejection of Claim 3.

Regarding **claim 15**, this claim has similar limitations as Claim 4. Therefore it is interpreted and rejected for the reasons set forth in the rejection of Claim 4.

5. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over M. Fukumoto et al., FINGER-POINTER": POINTING INTERFACE BY IMAGE PROCESSING", Computers and Graphics, Pergamon Press LTD. Oxford, GB, vol. 18, no. 5, 9/1/1994, pp. 633-642, cited by Applicant, (hereinafter, "Fukumoto") in view of Cohen-Solal et al. U.S. Patent 7,028,269 (hereinafter, "Cohen-Solal"), in view of Surucu et al. U.S. Patent 7,028,269 (hereinafter, "Surucu"), and further in view of Pryor et al. U.S. Patent 7,042,440 (hereinafter, "Pryor").

Regarding **claim 7**, Fukumoto in view Cohen-Solal in view of Surucu teaches the installation of claim 1.

However, Fukumoto in view Cohen-Solal in view of Surucu does not explicitly disclose further comprising a third camera to film a picture representing said space and the electrical units to be controlled, the third camera being located in order to film the room from a location not being comprised between said determined area and the control screen.

Pryor discloses input devices for computers including multiple TV cameras whose output is analyzed and used as input to a personal computer (col. 1, lines 21-27); other cameras (1510, Fig. 15a observing the pistol orientation and position; 1580, image

1588 of a player or other person 1586; col. 39, lines 37-44) in addition two cameras (1590, 1591, Fig. 15a; col. 40, lines 20-30).

Nevertheless, it would have been obvious to one of ordinary skill in the art at the time the invention was made when facing the design need of a third camera to film a picture representing said space and the electrical units to be controlled, the third camera being located in order to film the room from a location not being comprised between said determined area and the control screen would have recognized and would have incorporated the multiple TV cameras taught by Lyman with the sound control installation of Fukumoto in view of Cohen-Solal in view of Surucu to obtain the third camera as claimed for purpose of having fast integration times capable of capturing common motions desired, and allows datums to be distinguished easily which greatly reduces computer processing time and cost, as suggested by Pryor in column 3, lines 44-47.

Response to Arguments

6. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new grounds of rejection

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CON P. TRAN whose telephone number is (571)272-7532. The examiner can normally be reached on M - F (08:30 AM - 05:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor VIVIAN C. CHIN can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/CPT/
October 6, 2008

/Vivian Chin/

Supervisory Patent Examiner, Art Unit 2615